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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/914,344	03/19/2002	Franz Reufer	HM-427PCT	3640

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EXAMINER

ANDREWS, MELVYN J

ART UNIT

PAPER NUMBER

1742

9

DATE MAILED: 05/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

called 12/1/03

Office Action Summary

Application No.

09/914,344

Applicant(s)

REUFER ET AL.

Examiner

Melvyn J. Andrews

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter.

In the specification, the meaning of "burdening" for example, on page 2, line 12 is unclear.

In the specification, reference to "Claim 1" on pages 3 and 10 is indefinite.

In the specification, the meaning of "a conventional frame trickling apparatus" on page 3, line 21 is indefinite.

In the specification, the expression "a wheel-bound" on page 5, line 20 is indefinite.

In the specification, the meaning and location of the expression "slag blanket 53" on page 9, line 23 is indefinite.

In the specification and drawings the ""plugging and drilling" machine appears to be absent.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 8 provides for the use of a blast furnace installation, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 8 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claims 1 to 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Regarding claim1, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim 1 is indefinite because the expression "without frame on line 2" is inconsistent with "frame diameter..." on line 6 and "frame area" on line14.

Claim 1 is indefinite because it is unclear exactly what structural elements are intended to be claimed and the structural relationships of these elements at least (10), (15), (10) and (12) are indefinite.

Claim 1 recites the limitation "the entire upper blast furnace construction" in line 9. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "in the frame area" in line 14. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the zones of belly" in line 14. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "waist" in line 14. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "**lower shaft**" in line 15. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 is indefinite because the structural relationship of the "cooling elements..." on lines 15 and 16 to elements (11) and (12) is not shown in the drawings.

Claim 1 is indefinite because the structural relationship of the "one set of tap hole plugging and drilling machines" to the blast furnace is indefinite because these are two distinct apparatuses there is no apparent structural relationship.

Claim 2 is indefinite because any structural relationships are not clearly claimed since the location of "throat armor" to the blast furnace is not set forth.

Claim 3 is indefinite because the meaning of the expression "burdening (30)" is unclear.

Claim 4 is indefinite because the structure of the "storage volume" is not defined structurally but with respect to a process limitation this is indefinite.

Regarding claim 4, the phrase "preferably" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim 5 is indefinite because the "automation and control device" structures are indefinite since they are shown in the drawings.

Claim 7 is indefinite because the process limitation does not further limit the blast furnace structurally.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 to 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the publication by Avdeev et al ("New Technical Solutions in Blast Furnace Designs" London Bd. 26, No.4 in view of Tokarz (US 3,764,027). Avdeev et al discloses a blast furnace in the frameless "American" design referred to in the introduction with an upper furnace supported on the furnace armour, having a hearth diameter in the range (pages 26 and 27 final paragraph); the blast furnace has a moveable chute and the belly, waist and lower shaft zones has water-cooled elements (page 27, 1st, 2nd and 3rd paragraphs and page 28, 1st paragraph but does not apparently disclose "revolving chute" or a "single notch" but Tokarz discloses a "revolving chute 14" (col.4, line 43) it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a revolving chute in the Avdeev et al blast furnace in order to provide uniform distribution into the blast furnace and the provision of a single notch is obvious since it amounts to a simplification of the blast furnace structure.

Claims 1, 2 and 5 to 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maloney et al (US 3,623,717) in view of Tokarz (US 3,764,027) and Brucher et al (US 4,057,234). Maloney et al discloses a self-supporting blast furnace

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shell and a metallic lining for the blast furnace with no mantle and no columns (see Abstract and col.8, line 61 to col.9, line 11) but does not disclose a revolving chute or a tap-hole boring or plugging machine but Tokarz discloses a revolving chute 14 (col.4, line 43) it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a revolving chute in the Maloney et al blast furnace in order to provide uniform distribution into the blast furnace and Brucher et al discloses a tap-hole boring or plugging machine (col.4, lines 23 to 61) it would have been obvious to one of ordinary skill in the art to provide a tap-hole boring and plugging machine when using the Maloney et al blast furnace since molten metal is being discharged in both cases.

With respect to Claim 5 it is conventional to provide automation and control means to operate the blast furnace as evidenced by Tokarz which discloses a furnace charging program control and indicating system (col.6, lines 13 to 23).

With respect to Claim 6 the Maloney et al blast furnace will obviously be tapped into a ladle.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over the publication by Avdeev et al ("New Technical Solutions in Blast Furnace Designs" London Bd. 26, No.4 in view of Tokarz (US 3,764,027). as applied to claim 1 above, and further in view of Kelmar (US 4,670,049). Kelmar et al disclose a blast furnace in combination with a vertical conveyor 36 (col.3, lines 56 to 60) which would be an obvious means to charge the Maloney et al blast furnace .

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvyn J. Andrews whose telephone number is 703-308-3739. The examiner can normally be reached on 8:00A.M. to 4:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V King can be reached on 703-308-1146. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.


MELVYN ANDREWS
PRIMARY EXAMINER

mja
May 24, 2003